

NOTES ON THE *CTENOTUS* (LACERTILIA, SCINCIDAE)
OF QUEENSLAND

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ABSTRACT

Full or partial descriptions are given for *C. pantherinus acripes* Storr, *C. robustus* Storr, *C. spaldingi* (Macleay), *C. inornatus* (Gray), *C. lateralis* nov., *C. essingtonii* (Gray), *C. schevilli* (Loveridge), *C. pulchellus* nov., *C. hebetior* nov. and *C. striaticeps* nov.

INTRODUCTION

Regional revisions of *Ctenotus* (Storr 1969, 1970, 1971, 1974, 1975) cover Western Australia, the Northern Territory and South Australia, and one of them (Storr 1971) virtually covers Victoria and inland New South Wales. Queensland thus remains the biggest gap in our knowledge of the genus.

Recent collections in western and northern Queensland, notably by Messrs G. Harold, M. Peterson and J.R. Ford, have brought to light four new species, have extended the known range of two western taxa eastwards into Queensland, and have permitted the redescription of certain little-known species.

These notes are based on material in the Western Australian Museum (registered numbers without prefix) and specimens loaned on previous occasions by the National Museum of Victoria (registered numbers prefixed with NMV), Queensland Museum (QM); South Australian Museum (SAM); Macleay Museum, Sydney (MM); CSIRO Wildlife Section, Darwin (NTR); and Arid Zone Institute, Alice Springs (NTM).

I am grateful to Gregory Harold for photographs of the new species and for information on their habitat preferences.

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CTENOTUS PANTHERINUS ACRIPES

Ctenotus pantherinus acripes Storr, 1975, Rec. West. Aust. Mus. 3: 216.
Barrow Island, W.A. (W.H. Butler).

Diagnosis

Differing from other subspecies of *C. pantherinus* by the combination of black nails, sharply keeled subdigital lamellae, spiny plantars, and high number of midbody scales.

Distribution

Arid and semi-arid northern interior of Queensland and adjacent parts of Northern Territory, in spinifex (*Triodia* and *Plectrachne*) on sandy, gravelly or stony soils. Also Barrow Island, off northwest coast of Western Australia.

Description

Snout-vent length (mm): 50-63 (N 4, mean 58.5). Length of appendages (% SVL): foreleg 29-34 (N 4, mean 31.0); hindleg 45-48 (N 4, mean 46.8); tail 176-195 (N 3, mean 183.0).

Nasals strongly grooved and in long median contact. Prefrontals in moderately long median contact. Supraoculars 4, first three in contact with frontal. Supraciliaries 7 (N 4). Second loreal 1.1-1.4 (N 4, mean 1.25) times as wide as high. Presuboculars 2 (N 4). Upper labials 8 (N 4). Temporals 1 + 2, upper secondary much the largest. Ear lobules 3-5 (N 4, mean 4.2); first, second or third largest. Nuchals 2 or 3 (N 4, mean 2.3). Midbody scale rows 38-40 (N 4, mean 39.5). Lamellae under fourth toe 20-23 (N 4, mean 21.2), each bearing a fine, sharp, dark keel. Plantars sharply conical, proximal scales not greatly enlarged.

Dorsal and lateral surfaces olive brown, darkest on head, palest on tail and sides, with *ca* 10 longitudinal series of black-edged white spots, mid-lateral series tending to form a black-edged white stripe on tail. Posterior upper labials posteriorly edged with dark brown. Legs dark brown; hindleg with one or two longitudinal series of indistinct ocelli. Under surface white, flecked with pale grey. Culmen of nails blackish brown.

Remarks

It is strange that these specimens should be so like those of distant Barrow Island. Perhaps *C. p. acripes* was formerly widespread in the northern interior of Western Australia and the Northern Territory but has recently been replaced by *C. p. ocellifer*.

Other subspecies of *C. pantherinus* could reach Queensland, especially *C. p. calx*, which has been collected in the Northern Territory half of the Nicholson River drainage.

Material

Queensland: 10 km SW of Pentland (55637); Fermoy (55668) and 5 km NW (55672).

Northern Territory: Barkly Highway (NTM 5334).

CTENOTUS ROBUSTUS

Ctenotus robustus Storr, 1970, J. Proc. R. Soc. West. Aust. 52: 100.
Northern Territory (Spencer & Gillen).

Diagnosis

A very large member of the *lesueurii* group with 4 supraoculars, nuchals usually 3 or 4, upper labials 7 or 8, black vertebral stripe wide and white-edged, small pale upper lateral spots indistinct and not confluent with white midlateral stripe.

Distribution

Eastern Queensland, north to Trinity Bay and inland to Pentland, Muttaborra and Cunnamulla. Extralimital in far north of Western Australia and Northern Territory and in southeastern Australia.

Description

See Storr (1970, 1971, 1975).

CTENOTUS SPALDINGI

Hinulia spaldingi Macleay, 1877, Proc. Linn. Soc. N.S.W. 2: 63. Endeavour River, Queensland (Chevert Expedition).

Lygosoma dorsale Boulenger, 1887, Catalogue of the lizards in the British Museum (Natural History) 3: 226. Fly River, Papua (S. Macfarlane).

Diagnosis

A large member of the *lesueurii* group with 3 supraoculars, sharp brow tending to hide supraciliaries, nuchals usually 2 or 3, upper labials usually 7, large pale upper lateral spots confluent with white midlateral stripe.

Distribution

North Queensland from Badu Island (Torres Strait) south to beyond Hughendon (Cameron Downs). Extralimital in south New Guinea and far north of Northern Territory.

Description

Snout-vent length (mm): 33-102 (N 42, mean 69.0). Length of appendages (% SVL): foreleg 19-29 (N 42, mean 24.1); hindleg 37-55 (N 42, mean 44.8); tail 190-234 (N 21, mean 212.9).

Nasals separated (occasionally in short contact). Prefrontals in contact (occasionally very narrowly separated). Supraoculars 3, first two in contact with frontal. Supraciliaries 8-13 (N 35, mean 10.1), third or fourth to penultimate considerably smaller than others and often hidden by brow. Second loreal 1.1-2.3 times as wide as high (N 41, mean 1.77). Presuboculars 2. Upper labials 7 or 8 (N 41, mean 7.3). Temporals 1 + 2, upper secondary much the largest. Ear lobules 2-6 (N 42, mean 4.3); obtuse in juveniles, subacute or acute in adults; second or third usually largest. Nuchals 2-4 (N 40, mean 2.8). Midbody scale rows 26-32 (N 41, mean 29.6). Lamellae under fourth toe 18-25 (N 41, mean 21.0), widely callose.

Dorsally pale olive brown (more reddish in life). Narrow to moderately wide black vertebral stripe usually pale-edged and extending to hind back or base of tail in south; sometimes completely absent in north but usually represented by a narrow stripe on fore back, with or without a pale margin. Narrow black or dark brown laterodorsal stripe in south, absent or represented only anteriorly in north. Narrow white dorsolateral stripe from last supraocular to base of tail. Dark brown upper lateral zone with a series of squarish white blotches, inferiorly confluent with midlateral stripe. White midlateral stripe from lores to tail, sometimes represented anteriorly only by a subocular streak. Pale ventrolateral stripe present or absent.

Material

Queensland: Cape York (QM J1697, 1701-4); Edward River Station (NMV D13152-3); Strathgordon (NMV D13151); Endeavour River (MM 418-21, syntypes); 3 km SE of Wrotham Park (55889); 25 km ESE of 'Torwood (55880-1); 32 km NNW of Mt Garnet (55890); 6 km E of Croydon (55862); 21 km W of Torrens Creek (55481-3) and 6 km S (55635-6); Mornington Island (SAM R9343-56; NMV D8433-6); 'North Queensland' (NMV D2033); 'Queensland' (NMV D1456).

CTENOTUS INORNATUS

Hinulia inornata Gray, 1845, Catalogue of the lizards in the British Museum, p. 78. Port Essington, N.T. (*vide* Storr, 1975: 221).

Diagnosis

A moderately small, long-tailed member of the *lesueurii* group, *inornatus* sub-group, with colour pattern tending to disappear with age, 4 supraoculars, 8 upper labials and seldom more than 3 nuchals.

Distribution

Southern Carpentarian drainages of northern Queensland, east to Gilberton; also Mornington Island. Extralimital in far north of Western Australia and Northern Territory.

Description

See Storr (1970, 1975).

CTENOTUS LATERALIS SP. NOV.



Plate 1: Holotype of *Ctenotus lateralis* photographed in life by G. Harold.

Holotype

J28372 in Queensland Museum, formerly R55485 in Western Australian Museum, collected by Messrs G. Harold and M. Peterson on 20 November 1976 at 14 km N of Mt Isa, Queensland, in 20° 37'S, 139° 32'E.

Diagnosis

A long-tailed, long-legged member of the *lesueurii* group, *inornatus* sub-group, with pale upper lateral spots wholly or mainly replaced by a broad stripe.

Distribution

Stony hills and ridges of arid and semi-arid zones of northern Queensland.

Description

Snout-vent length (mm): 48-88 (N 14, mean 69.0). Length of appendages (% SVL): foreleg 23-31 (N 14, mean 25.8); hindleg 39-52 (N 14, mean 44.0); tail 219-262 (N 7, mean 237.6).

Nasals narrowly separated (just touching in one specimen, moderately widely separated in another). Prefrontals usually forming a short to moderately long suture (narrowly separated in two specimens). Supraoculars 4, first three in contact with frontal, first a little to considerably narrower than second. Supraciliaries 7 (8 in two specimens), either forming a graded series or with fourth to penultimate considerably smaller than others. Second loreal 1.2-2.0 times as wide as high (N 14, mean 1.69). Presuboculars 2. Upper labials 8 (9 in one specimen). Ear lobules 3-5 (N 14, mean 4.5); obtuse in juveniles, usually subacute in adults; first usually very small, second or third largest. Nuchals 2-4 (usually 2 or 3, N 14, mean 2.8). Mid-body scale rows 28-32 (N 14, mean 30.1). Lamellae under fourth toe 20-25 (N 14, mean 22.1), each with a wide dark-brown callus.

Dorsally greyish brown, reddish brown or olive brown, becoming greyer on tail. Narrow black vertebral stripe from nape to base of tail, indistinctly edged with greyish white or brownish white (pale margins tending to disappear with age). White or whitish dorsolateral stripe from orbit to proximal half of tail, edged above with black (i.e. a narrow laterodorsal stripe). Upper lateral zone black (becoming brown on tail), bisected by a wide greyish white or brownish white stripe. Narrow to moderately wide greyish white midlateral stripe, extending back nearly to end of tail and forward to ear aperture, thence more narrowly and less distinctly to lores. Lower lateral zone greyish, occasionally bisected by a pale stripe. Legs reddish brown streaked with black.

Paratypes

Queensland: 30 km E of Georgetown (55893); Julius Dam, Leichhardt River (55379); 72 km NNE of Mt Isa (55345); 13 km NW of Mt Isa (55444); 10 km NW of Fermoy (41069); 8 km NW of Fermoy (55553, 55613); 5 km NW of Fermoy (55612, 55565-6); Fermoy (55587, 55607); 19 km E of Fermoy (55567).

CTENOTUS ESSINGTONII

Tiliqua essingtonii Gray, 1842, The zoological miscellany, p. 51. Port Essington, N.T. (J. Gilbert).

Diagnosis

A member of the *essingtonii* group with little or no indication of black vertebral stripe, dark upper lateral zone unspotted, separated nasals, separated prefrontals, 4 supraoculars, 7 upper labials, ear lobule very large and obtuse, 24 midbody scale rows, and toes slightly compressed with 17-24 dark, widely callose lamellae.

Distribution

Southern Carpentarian drainages of northern Queensland, south to Mt Isa, north to the Edward River and east to Wrotham Park. Extralimital in far north of Northern Territory.

Description

See Storr (1970).

CTENOTUS SCHEVILLI

Sphenomorphus schevilli Loveridge, 1933, Occ. Pap. Boston Soc. nat. Hist. 8: 96. Army Downs, 55 km N of Richmond, Qld (W.E. Schevill).

Diagnosis

A moderately large *Ctenotus* with more than 36 midbody scale rows and pattern consisting mainly of white dots.

Distribution

Arid northern interior of Queensland from the Richmond district south to the Boulia and Aramac districts.

Description

Snout-vent length (mm): 65-84 (N 5, mean 76.0). Length of appendages (% SVL): foreleg 24-28 (N 5, mean 25.4); hindleg 39-44 (N 5, mean 41.3); tail 159-168 (N 3, mean 163.0).

Nasals usually in contact. Prefrontals separated or in contact. Supraoculars 4, first three in contact with frontal. Supraciliaries 6-8 (N 5, mean 7.2). Palpebrals 12-13 (N 5, mean 12.2). Second loreal 0.8-1.4 (N 5, mean 0.99) times as high as wide. Upper labials 8. Temporals 2 + 2 (four specimens) or 1 + 2 (one specimen). Ear lobules 6-7 (N 5, mean 6.1); acute or subacute; central lobules largest. Nuchals 0-6 (N 5, mean 3.8). Midbody scale rows 37-44 (N 5, mean 41.2). Lamellae under fourth toe 22-26 (N 5, mean 23.6), slightly compressed, widely to moderately narrowly callose.

Dorsally pale reddish brown (sharply demarcated from darker reddish brown of upper lateral zone) or olive brown. Median dorsal zone of dark spots and pale flecks, dark markings on hind back and/or proximal third of tail tending to coalesce into an irregular vertebral stripe. Temples and side of body and base of tail densely covered with white dots; dots of upper lateral zone, and sometimes of lower lateral zone, arranged in vertical series. Legs pale brown with little pattern. Under surface white.

Material

Queensland: Paton Downs (NTR 351); Army Downs (QM J5805, holotype); 25 km SE of Muttaborra (NMV D13899-901).

CTENOTUS PULCHELLUS SP. NOV.

Holotype

J28375 in Queensland Museum, formerly R55577 in Western Australian Museum, collected by Messrs G. Harold and M. Peterson on 21 November 1976 at 72 road km NNE of Mt Isa, Queensland, in 20°19'S, 139°47'E.

Diagnosis

A small slender member of the *leonhardii* group with five dark stripes on back, contiguous nasals and separated prefrontals, distinguishable from *C. militaris* of east Kimberley by its blackish upper lateral zone sharply demarcated from orange-red lower lateral zone and complete absence of white midlateral stripe. (In my original description of *C. militaris* I failed to mention that in most specimens there is some indication posteriorly of a white midlateral stripe.)

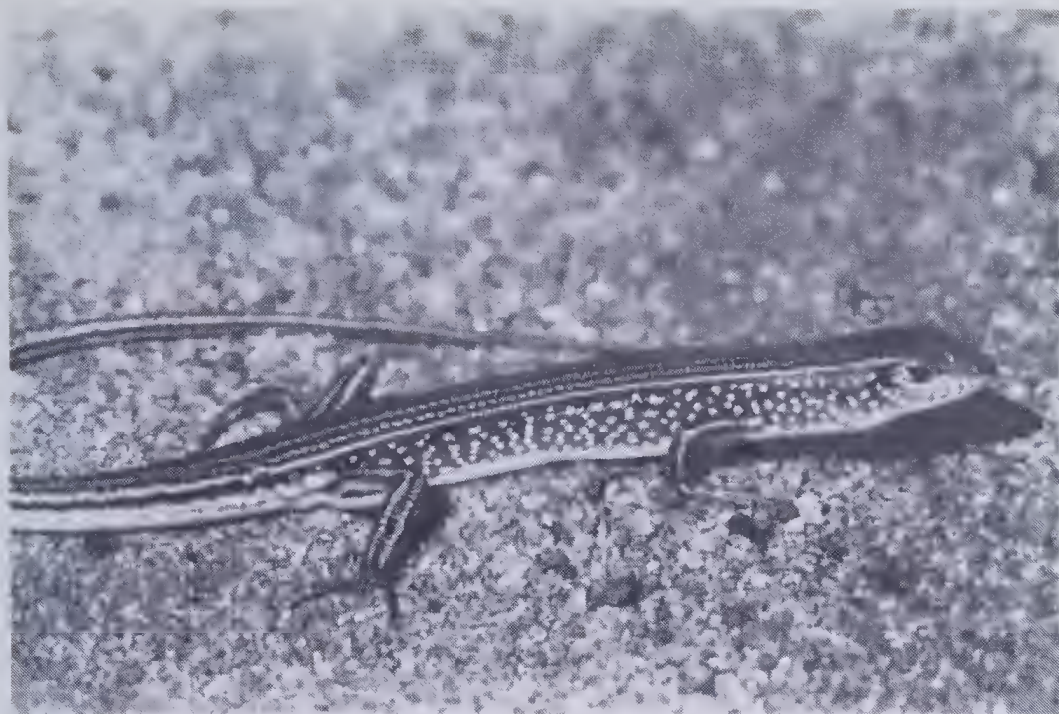


Plate 2: Holotype of *Ctenotus pulchellus* photographed in life by G. Harold.

Distribution

Stony hills of arid northwestern interior of Queensland, in spinifex (*Triodia* and *Plectrachne*).

Description

Snout-vent length (mm): 46-60 (N 6, mean 52.2). Length of appendages (% SVL): foreleg 26-31 (N 6, mean 29.2); hindleg 48-55 (N 6, mean 52.2); tail 192-225 (N 5, mean 209.8).

Nasals in long median contact. Prefrontals separated (usually widely). Supraoculars 4, first three in contact with frontal, first usually wider than second. Supraciliaries 7 (5 specimens) or 8 (one specimen), third to penultimate considerably smaller than others. Second loreal 1.3-1.8 (N 6, mean 1.53) times as wide as high. Presuboculars 2. Upper labials 8. Ear lobules 5 or 6 (N 5, mean 5.3), obtuse or subacute (acute in one specimen), third or fourth largest. Nuchals 3-5 (N 5, mean 3.9). Midbody scale rows 30-34 (N 5, mean 32.4). Lamellae under fourth toe 23-27 (N 5, mean 25.6), compressed, each with a narrow to moderately wide, dark callus.

Dorsally reddish brown. Back with five blackish brown stripes: vertebral

widest, extending from back of head to base of tail; laterodorsal from brow to base of tail; and between them a dorsal, narrowest and least extensive and tending to fade on fore back. White dorsolateral stripe from orbit to base of tail. Blackish brown upper lateral zone with 1-3 irregular series of white dots, extending on to tail as a dark brown stripe. Face and lower lateral zone orange with 3-5 irregular series of white dots that tend to be dark-edged. Legs reddish brown streaked with blackish brown. Under surface opalescent white, becoming pinkish buff under limbs and tail.

Remarks

This beautiful skink is so like *C. militaris* that it could prove to be only subspecifically distinct. At present the known ranges of *pulchellus* and *militaris* are separated by 1200 km.

Paratypes

Queensland: 72 road km NNE of Mt Isa (55452); 8 km N of Mt Isa (55323); 2 km E of Fermoy (41070); 16 km E of Fermoy (41068, 41071).

CTENOTUS HEBETIOR SP. NOV.



Plate 3: Holotype of *Ctenotus hebetior* photographed in life by G. Harold.

Holotype

J28374 in Queensland Museum, formerly R55673 in Western Australian Museum, collected by Messrs G. Harold and M. Peterson on 8 November 1976 at 5 km NW of Fermoy, Queensland, in 23°09'S, 143°00'E.

Diagnosis

A small stout member of the *leonhardii* group with 5 dark stripes on back. Most like *C. militaris* of east Kimberley but differing from that species and *C. pulchellus* by its smaller nasals, larger prefrontals, fewer midbody scale rows, and vertebral stripe narrower than laterodorsal stripe. Further distinguishable from *C. pulchellus* by its paler and duller coloration without sharp demarcation between upper and lower lateral zones (apart from midlateral stripe).

Distribution

Arid northern interior of Queensland, on grassy flats (including *Triodia*).

Description

Snout-vent length (mm): 47-58 (N 6, mean 52.3). Length of appendages (% SVL): foreleg 26-30 (N 6, mean 28.7); hindleg 45-55 (N 6, mean 50.3); tail 172-208 (N 2).

Nasals narrowly separated (4 specimens) or in short contact (2 specimens). Prefrontals in short contact (4 specimens) or very narrowly separated (2 specimens). Supraoculars 4, first three in contact with frontal, first usually wider than second. Supraciliaries 7 (2 specimens) or 8 (4 specimens), forming a graded series (3 specimens) or with third to penultimate considerably smaller than others. Second loreal 1.3-1.9 (N 6, mean 1.60) times as wide as high. Presuboculars 2. Upper labials 8. Temporals normally 3, uppermost largest. Ear lobules 4 or 5 (N 6, mean 4.3); obtuse or subacute; first, second or third largest. Nuchals 2-5 (N 6, mean 3.3). Midbody scale rows 30 (N 6). Lamellae under fourth toe 23-27 (N 6, mean 24.7).

Dorsally pale greyish brown or buffy brown. Five dark stripes from back of head or nape to base of tail or beyond: inner (vertebral and two dorsals) narrow and indistinct; outer (two laterodorsals) darker, wider, more conspicuous and extending further back on tail. White dorsolateral stripe from above temples to base of tail. Upper lateral zone dark reddish brown anteriorly (including temples and lores), more greyish posteriorly, bearing two irregular series of white dots or a series of white spots. Narrow white midlateral stripe absent or moderately well-developed posteriorly (i.e. from hindleg half-way forward to foreleg). Lower lateral zone pale reddish brown

anteriorly, more greyish posteriorly, with two or more irregular series of inconspicuous pale dots. Legs buffy brown. Under surface opalescent white.

Paratypes

Queensland: 21 km W of Torrens Creek (55484, 55530); 21 km S of Winton (55678); 5 km NW of Fermoy (55542, 55573).

CTENOTUS STRIATICEPS SP. NOV.



Plate 4: Holotype of *Ctenotus striaticeps* photographed in life by G. Harold.

Holotype

J28373 in Queensland Museum, formerly R55420 in Western Australian Museum, collected by Messrs G. Harold and M. Peterson on 21 November 1976 at 72 road km NNE of Mt Isa, Queensland, in 20°19'S, 139°47'E.

Diagnosis

A member of the *colletti* group with 8 white stripes on a blackish ground and large opercle-like upper ear lobule. Most like *C. colletti* but distinguishable by its widely separated prefrontals, more numerous midbody scale rows, wider and whiter stripes, and extension of dorsal pattern forward to snout.

Distribution

Stony hills of arid northwestern interior of Queensland.

Description (of holotype, the only available specimen)

Snout-vent length (mm): 44. Length of appendages (% SVL): foreleg 26; hindleg 42; tail 193.

Nasals in long median contact. Prefrontals widely separated. Supraoculars 4, first three in contact with frontal, first wider than second. Supraciliaries 7, third to penultimate smallest. Second loreal 1.65 times as wide as high. Presuboculars 2. Temporals 3, uppermost largest. Upper labials 7. Ear lobules 2; upper very large, obtuse, covering nearly half of aperture; lower very small. Nuchals 3 or 4. Midbody scale rows 28. Lamellae under fourth toe 25-27, compressed, each bearing a fine, weak, mucronate keel (keels weakest or absent on proximal lamellae).

Dorsal and lateral surfaces blackish brown with 8 broad white stripes: on each side of paravertebral extending back nearly to end of tail and forward to frontonasal where it joins its opposite number; dorsolateral from brow to distal part of tail; midlateral from lores to middle of tail; and ventrolateral from foreleg to hindleg. Limbs white with three blackish brown longitudinal streaks. Anterior upper labials, lower half of rostral and entire lower surface white.

Alternatively it could be described as white with 9 blackish brown stripes: wide vertebral extending forward to centre of frontonasal; and on each side a wide laterodorsal forward to head, curving through centre of supraoculars down to wide upper lateral, which extends forward to nostril; lower lateral forward to ear aperture, thence narrowly and faintly along bottom of posterior upper labials; and narrow lateroventral from hindleg to foreleg. Vertebral, laterodorsal and upper lateral stripes extending back nearly to end of tail, on which they become narrower and paler. Lower lateral extending faintly and very narrowly to middle of tail.

DISCUSSION

Ctenotus is essentially a genus of arid climates and/or sandy or stony habitats. It is therefore not surprising that the deserts and stony ranges of western Queensland are much richer in species than the well-watered and well-wooded northern and eastern parts of the State or the grassy plains that usually lie between these two extreme habitat types.

Ten species are now known from stony and sandy habitats in the arid and

semi-arid zones of Queensland: *C. pantherinus* of the *pantherinus* group, *C. inornatus* and *C. lateralis* of the *inornatus* subgroup, *C. essingtonii* of the *essingtonii* group, *C. pulchellus* and *C. hebetior* of the *leonhardii* group, *C. piankai* of the *taeniolatus* group, *C. striaticeps* of the *colletti* group, and *C. strauchii* and *C. brooksi* of the *schomburgkii* group. All but one of these groups or subgroups are confined to the western three-quarters of Australia, and the exceptional group (*taeniolatus*) has only a single representative in the east.

In the north the grassy plains of the Barkly Tableland and upper Georgina constitute a barrier to the eastward dispersal of arid stony-country and spinifex-inhabiting species. The arid Queensland representative of the highly successful *inornatus* subgroup is a very distinct species (*C. lateralis*), as is the sole Queensland representative of the *colletti* group (*C. striaticeps*). However, the two members of the *leonhardii* group (*C. pulchellus* and *C. hebetior*) are closely related to each other and to *C. militaris* of east Kimberley; they could have derived from the double invasion of a single western stock.

Only one species, *C. schevilli*, has been found on the grassy plains of arid northern Queensland, but *C. joanae* of the Barkly Tableland and upper Georgina of the Northern Territory could well extend to similar country in far western Queensland. *C. regius* has been collected on Mitchell grass plains near Cunnamulla in semi-arid southwestern Queensland.

To date only three species of *Ctenotus* have been recorded from the humid and subhumid zones of northern and eastern Queensland, namely *C. robustus* and *C. spaldingi* of the *lesueurii* group and *C. taeniolatus*. Moreover the first two of these species seem to have mutually exclusive ranges, *C. robustus* only occurring to the south and east of *C. spaldingi*.

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